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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,645	05/25/2006	Sachio Iida	289831US8PCT	5346
22850 7590 11/17/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER AKINYEMI, AJIBOLA A				
ART UNIT 2618		PAPER NUMBER		
NOTIFICATION DATE 11/17/2010		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/580,645

Applicant(s)

IIDA, SACHIO

Examiner

AJIBOLA AKINYEMI

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2010.
2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 9-20 is/are rejected.
7) ☐ Claim(s) 21 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 21 objected to because of the following informalities: Claim 21 depend on a cancelled claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art henceforth "Admission" and further in view of Richley (Patent No.: US 7412007B1).

With respect to claim 9:

Admission discloses a wide band amplifier comprising: an input terminal configured to receive an input voltage(fig.8, item V1), an output terminal configured to provide an

amplified output voltage (fig.8, item V2), an amplification device (fig.8, item 102) connected in series between the input terminal and output terminal, an output terminal of the amplification device being directly connected to the output terminal; an LC parallel resonant circuit (fig.8, item 103,104) connected between the output terminal (fig.8, item V2) and the ground terminal in parallel to the amplification device (fig.8, item 102) and Admission did not disclose LCR series resonant circuit connected between the output terminal and ground terminal in parallel to the amplification device and the LC parallel resonant circuit. Richley discloses this limitation (fig.3, items 15, 16, 19 include LCR series resonant circuit connected between output and ground in parallel with amplification device (fig. 3, item 12 or fig.4A, item 20) and LC parallel resonant circuit (fig.4A, item 24, 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the LCR series resonant circuit of Richley to be incorporated to Admission teaching for tuning purpose.

5. Claim 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art henceforth "Admission" and further in view of Richley (Patent No.: US 7412007B1) and Kaczynski (Pub. No.: US 2007/0111684A1).

With respect to claim 10:

The rejection of claim 9 is incorporated; Admission and Richley did not disclose an amplifier wherein a common gate circuit and a cascade circuit are combined. Kaczynski disclosed an amplifier wherein a common gate circuit and a cascade circuit are

combined (parag.0034). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a common gate circuit and cascade circuit combined together in order to amplify the signal.

With respect to claim 11:

The rejection of claim 9 is incorporated; Admission and Richley did not disclose an amplifier wherein a common-source circuit, a cascade circuit and a voltage feedback circuit are combined but the examiner take official notice that combining common source circuit, a cascade circuit and a voltage feedback is common in the art and it would have been obvious to one of ordinary skill in the art at the time the invention as made to have this limitation in order to amplify the signal.

6. Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art henceforth "Admission" and further in view of Richley (Patent No.: US 7412007B1), Shohara (Pub. No.: US 2005/0078743A1) and Wilhelmsson (Pub. No. US 2007/0211831A1).

With respect to claims 12:

Admission discloses an amplifier comprising an input terminal configured to receive an input voltage(fig.8, item V1), an output terminal configured to provide an amplified output voltage (fig.8, item V2), an amplification device (fig.8, item 102) connected in series between the input terminal, an output terminal of the amplification device being an output terminal of the amplifier (fig.8, item 102) and an LC parallel resonant circuit (fig.8, item 103,104) connected between the output terminal and the ground in parallel

to the amplification device (fig.8, item 102). Admission did not disclose an antenna, a band pass filter and low noise amplifier, converter, automatic gain control, processor, LCR series resonant circuit connected between the output terminal and ground terminal and down-converter being directly coupled to the amplification device. Richley discloses LCR series resonant circuit (fig.3, 15, 16, 19 and fig.4A, items 22, 23, 26) connected between the output terminal and ground and the LC parallel resonant circuit (fig. 3, item 17, 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the above limitation of Richley incorporated to Admission for tuning purpose. Shohara disclosed a wireless communication apparatus comprising a low noise amplifier configured to amplify a voltage of a received signal (parag. 0034), a down-converter (fig.1, item 14) configured to down-convert the voltage-amplified received signal by frequency conversion, an automatic gain controller (fig.1, item 28), an analog-digital converter (fig.1, item 18), and a signal processing circuit configured to perform digital signal processing of received data (fig.1, item 50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have all this limitation in order to filter received signal and downconvert the signal for further processing. Wilhelmsson discloses down-converter being directly coupled to the amplification device (fig.4, item 403 coupled to item 402). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have down-converter directly coupled to amplification device as a design choice.

With respect to claim 13:

Admission discloses an amplifier comprising: an input terminal configured to receive an input voltage (fig.8, item V1), an output terminal configured to provide an amplified output voltage (fig.8, item V2), an amplification device (fig.8, item 102) connected in series between an input terminal and output terminal; an LC parallel resonant circuit (fig.8, item 103,104) connected between the output terminal and a ground (fig.8) in parallel to the amplification device (fig.8, item 102). Admission did not disclose an antenna, a band pass filter and low noise amplifier, converter, automatic gain control, processor and LCR series resonant circuit connected between the output terminal and the ground terminal and in parallel to the amplification device; power amplifier and down-converter being directly coupled to the amplification device. Richley discloses LCR series resonant circuit (fig.3, 15, 16, 19 and fig.4A, 22, 23, 26) connected between the output terminal and the ground terminal and the LC parallel resonant circuit (fig. 3, item 17, 18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the above limitation of Richley incorporated to Admission for tuning purpose. Shohara disclosed a wireless communication apparatus comprising a low noise amplifier configured to amplify a voltage of a received signal (parag. 0034), a down-converter (fig.1, item 14) configured to down-convert the voltage-amplified received signal by frequency conversion, an automatic gain controller (fig.1, item 28), an analog-digital converter (fig.1, item 18), digital- analog converter (fig.1, item 44) which converts transmit data to an analog signal, an up-converter (fig.1, item 48) configured to up- convert the analog transmit signal by frequency conversion, a power amplifier (parag.0034) configured to amplify power of the up-converted transmit signal, and a

signal processing circuit (fig.1, item 50) configured to perform digital signal processing of transmit/receive data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have these limitations in order to filter received signal and downconvert the signal for further processing. Wilhelmsson discloses down-converter being directly coupled to the amplification device (fig.4, item 403 coupled to item 402). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have down-converter directly coupled to amplification device as a design choice.

7. Claim 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art henceforth "Admission" and further in view of Modafferi (Patent No.: US 4771466).

With respect to claim 14:

Admission discloses an amplifier comprising an input terminal configured to receive an input voltage(fig.8, item V1), an output terminal configured to provide an amplified output voltage (fig.8, item V2); an amplification device (fig.8, item 102) connected in series between the input terminal and the output terminal; an analog band pass filter connected in parallel to the output terminal of the amplification device (fig.8) and a load directly coupled to the amplification device (fig. 8). Admission also disclose output of the amplification device (fig.8, item 102) being directly connected to the output terminal (fig.8 output terminal 108 is connected to the amplification device 102) Admission did not explicitly disclose s-plane in which the plurality of pole is provided and zero are

provided between the poles. Modafferi discloses a band pass filter with s-plane in which the plurality of pole is provided and zero are provided between the poles (col.5, lines 50-57 and fig.4, 5, 6, 12, 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have s-plane in which the plurality of pole is provided and zero are provided between the poles to eliminate distortion.

With respect to claim 15, 16:

Admission discloses an amplifier wherein the band pass filter does not have a capacitor and inductor are not provided in series with an output terminal of the amplifier (fig.8 shows capacitor and inductor in parallel with the output).

With respect to claim 17, 18:

The rejection of claim 14 is incorporated; Admission and Modafferi do not disclose an amplifier wherein common gate and cascade circuit are combined and a common-source circuit, a cascade circuit and a voltage feedback circuit are combined but the examiner take official notice that combining common source circuit, a cascade circuit and a voltage feedback is common in the art and it would have been obvious to one of ordinary skill in the art at the time the invention as made to have this limitation in order to amplify the signal.

8. Claims 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richley (Patent No.: US 7412007B1) and further in view of Shohara (Pub. No.: US 2005/0078743A1), Wilhelmsson (Pub. No. US 2007/0211831A1) and Modafferi (Patent No.: US 4771466).

With respect to claims 19, 20:

Richley discloses an amplifier (fig.3, item 12) comprising an input terminal (fig.1, item 66) configured to receive an input voltage, an output terminal configured to provide an amplified output voltage (fig.1, output of item 62), an amplification device (fig.1, item 62) connected in series between the input terminal (fig.1, item 66), an output terminal of the amplification device being an output terminal of the amplifier (fig.1, item 62) and an LC parallel resonant circuit (fig.1, Ld, Cd) connected between the output terminal and the ground in parallel to the amplification device (fig.1, item 62) and LCR series resonant circuit (fig.1, Ls, Cs, Rs) connected between the output terminal and ground terminal. Richley did not explicitly disclose an antenna, a band pass filter and low noise amplifier, converter, automatic gain control, processor, down-converter being directly coupled to the amplification device and s-plane in which the plurality of pole is provided and zero are provided between the poles. Shohara disclosed a wireless communication apparatus comprising a low noise amplifier configured to amplify a voltage of a received signal (parag. 0034), a down-converter (fig.1, item 14) configured to down-convert the voltage-amplified received signal by frequency conversion, an automatic gain controller (fig.1, item 28), an analog-digital converter (fig.1, item 18), and a signal processing circuit configured to perform digital signal processing of received /transmit data (fig.1, item 50), power amplifier configured to amplify a power of the up-converted transmit signal (parag.0034). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have all this limitation in order to filter received signal

and downconvert the signal for further processing. Wilhelmsson discloses down-converter being directly coupled to the amplification device (fig.4, item 403 coupled to item 402). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have down-converter directly coupled to amplification device as a design choice. Modafferi discloses a band pass filter with s-plane in which the plurality of pole is provided and zero are provided between the poles (col.5, lines 50-57 and fig.4, 5, 6, 12, 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have s-plane in which the plurality of pole is provided and zero are provided between the poles to eliminate distortion.

Response to Arguments

9. Applicant's arguments, see remark, filed 10/26/2010, with respect to the rejection(s) of claim(s) 9-20 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Takahashi and Modafferi.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJIBOLA AKINYEMI whose telephone number is (571)270-1846. The examiner can normally be reached on monday- friday (8.30-5pm) Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, YUWEN PAN can be reached on (571) 272-7855. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. A./
Examiner, Art Unit 2618

/Duc Nguyen/
Supervisory Patent Examiner, Art Unit 2618